Senior Honours Progress

Initial Plan

The initial plan involved building a system which would automatically adjust itself to a user, allowing them to better learn/understand a programming language.

My initial plan based itself around having a questionnaire to ask questions which could be used to tweak how the system was going to work. Whether people would prefer more text or pictures. Whether a textual interface compared with a block code style would be better for teaching. All of these would be considered and adjusted for different age groups, with the initial settings being weighted from the results of the questionnaire, but with the system keeping track of all users to see if it could change for the better.

Progress/Future Work

The progress has been slow in the building of the system, due to a lack of communication the ethics approval for the questionnaire has been held up. As such certain features and settings have not been able to be implemented or prepared as I would have prefered. Currently most of the front end has been developed, and the backend is progressing. An online API named stormpath is being integrated to help the user authentication. It allows for encryption and authentication of users and their details to be stored off site. It's use has also caused a few delayed in getting it set up, but has now led onto the next step. Setting up a server is the next crucial step which is being worked on. Ideally it will be integrated with node JS, which will allow client-server interaction, as well as access to stormpath. This will help with storing data with which to alter how the system teaches, as well as how it will adjust person to person. It has been decided that the different lessons will be stored within JSON files, these in turn will hold different levels of help. A user will be displayed with the level they have initially set to, e.g. 3 out of 5, from here they will be able to expand upon what they have currently, adding more description /images. If this occurs frequently enough, then the system will change their level to a higher setting allowing for them to, hopefully, learn better. The percentage of times they will need to click the button will be adjusted as more users provide more data to the users.

Technical Details

Main uses JQuery for the validation on the main HTML pages.

Node JS is used for accessing the stormpath (User Auth) and will be used as the library for the server.

Stormpath API is being used for user authentication.